

***McARTHUR COMPRESSOR STATION
CHARACTERIZATION REPORT***

Richland Township, Vinton County, Ohio

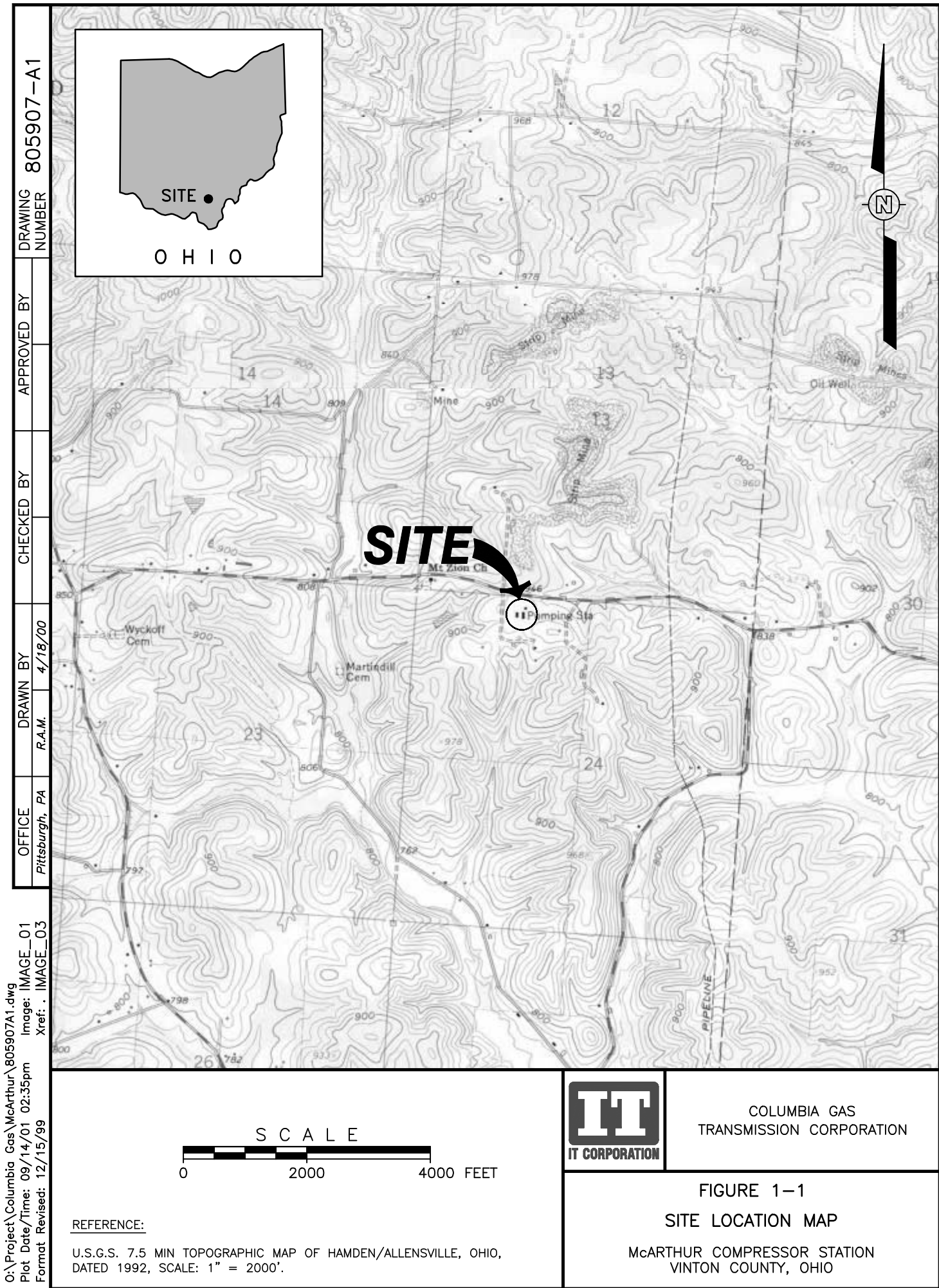
17 September 2001

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Prepared for Columbia Gas Transmission Corporation

By:

***IT Corporation
Environmental Standards, Inc.***



2.0 ENVIRONMENTAL SETTING

2.1 Physical Setting

The site is situated on an approximate 20-acre parcel of land located in Richland Township in Vinton County, Ohio. Vinton County lies in the Appalachian Plateaus Physiographic Province and has the physiographic features characteristic of that region. Although these plateaus are highly dissected by streams, the ridge tops are generally uniform and even. The great dissection of the plateaus in Vinton County has resulted in immense relief with rugged hills separated by narrow valleys (Soil Survey of Vinton County, Ohio, 1938). Based on the USGS topographic map (Figure 1-1), the site elevation is approximately 940 feet above mean sea level (AMSL). Surrounding ridges within one mile of the station reach elevations of 980 feet AMSL.

2.2 Climate

The climate of Vinton County is continental, with a considerable range between summer and winter temperatures. Precipitation is fairly uniform throughout the year. The least rainfall occurs in September, October, and November (Soil Survey of Vinton County, Ohio, 1938).

Average annual high temperature in the area is 63.8 degrees Fahrenheit (°F); annual low temperature is 44.0 °F. Average annual precipitation is 38.6 inches per year (http://weather.yahoo.com/almanac/Athens_OH_US_f.html).

2.3 Surface Water Hydrology

The site is located near the top of a ridge and surface water runoff drains in all directions except southeast depending on the specific location on the site. Three drainage pipes from the operations area of the facility were identified and located during the facility review. Additional drainage pipes were identified and two pipes on the northern portion of the property were located and sampled during the characterization fieldwork. Basement water from the compressor building and rainwater directed through downspouts are included in surface water drainage that is piped to an AT on the southern part of the facility property. The AT discharges to the drainage ditch at the southern property boundary.

The nearest surface water bodies to the McArthur Compressor Station are the headwaters of two tributaries of Little Raccoon Creek. One of the tributaries headwaters originate approximately 1000 feet northeast of the site, and the other tributaries headwaters originate approximately 1200 feet south of the site. Both tributaries flow south to their confluence with Little Raccoon Creek.

2.4 *Geology and Soils*

At the site, a mantle of residual soil, typically a few feet thick, overlies rocks of the Allegheny Formation and Pottsville Group (undifferentiated in this area). These units are Pennsylvanian in age and consist of sedimentary rocks composed of shale, sandstone, shale, limestone, and coal. The regional combined average thickness of these units is about 470 feet (Figure 2-1, Site Geology Map).

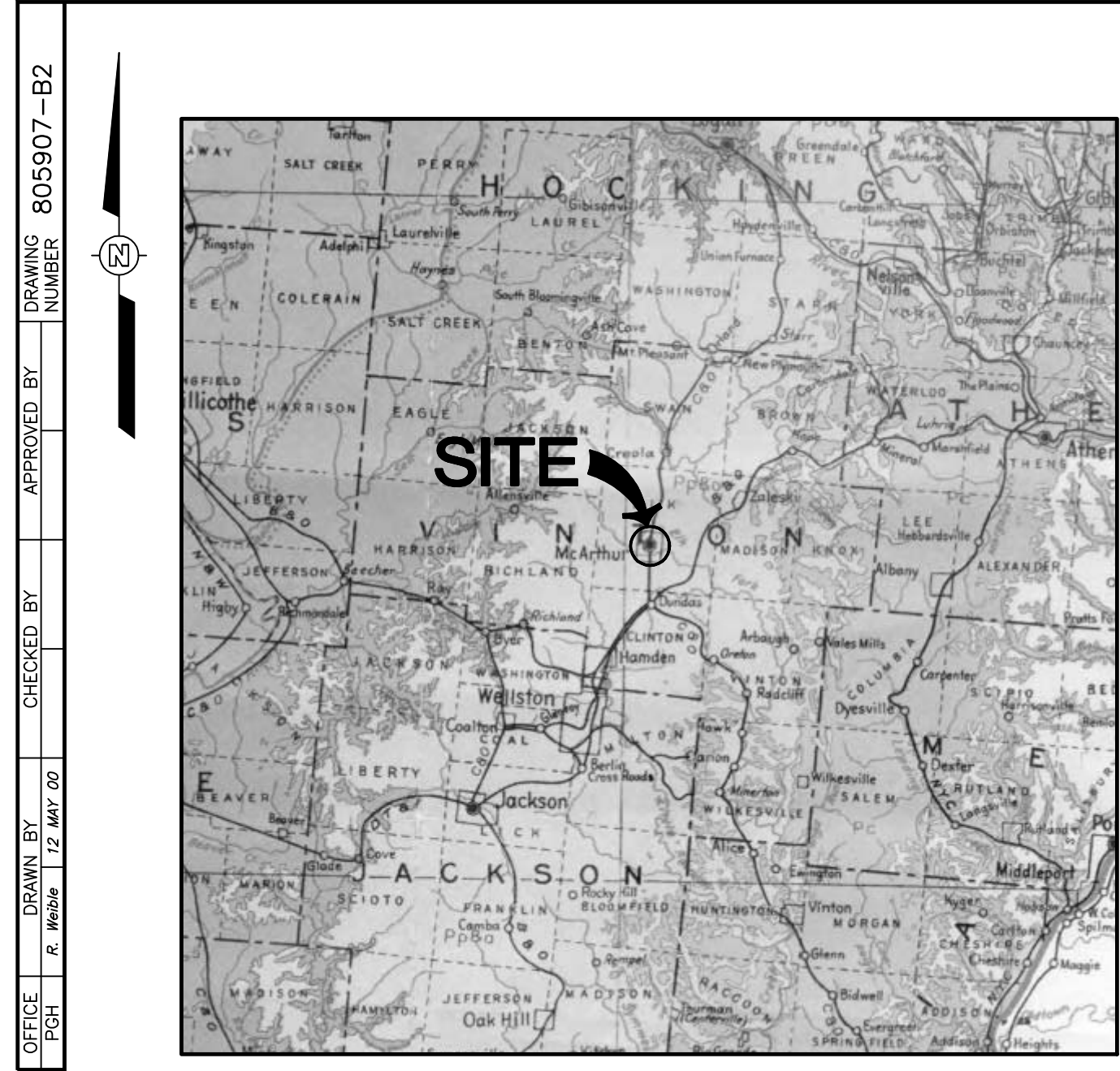
Soils underlying the site are classified as the Rarden silt loam. These soils occupy the upper slopes of ridges. The surface soil layer is grayish-brown silt loam. Beneath this is a subsurface layer of yellowish-brown silt loam which grades, at a depth of 10 inches, into the upper subsoil layer consisting of bright yellowish-brown moderately heavy silt loam. At a depth of 18 inches, the material is silty clay loam of mottled red, yellow, and gray colors, and the gray color becomes more prevalent with depth. Parent rock, consisting of shale and a little sandstone, is present at a depth ranging from 36 to 40 inches (Soil Survey of Vinton County, Ohio, 1938).

2.5 *Hydrogeology and Groundwater Quality*

Groundwater in the area is transported through and is stored in the natural porosity of unconsolidated alluvium and consolidated bedrock. Porosity in alluvial sediments results from intergranular pore spaces (primary porosity). In consolidated rock, these pore spaces are reduced substantially through compaction and cementation while porosity attributable to joints and bedding plane partings (secondary porosity) becomes significant.

There are no documented wells completed in the alluvium within five miles of the site. Documented bedrock wells within five miles of the site have depths ranging from 45 feet to 400 feet. Deeper wells target the Black Hand Member of the Cuyahoga Group, a well-known aquifer in the region. Well yields average 9 gallons per minute (gpm), and have been reported to be as high as 50 gpm. Significant water supplies are obtained from mine openings, one of which is used for a nearby municipal water supply; it delivers 700 gpm (Dames & Moore, 1993).

Well records obtained from Banks Information Solutions, Inc. (Banks) indicated that there are three private water supply wells located within a 0.5-mile radius of the site. The facility water supply well at the McArthur Compressor Station is identified as being owned by the Ohio Fuel Gas Company. The site water supply well depth, as reported by Columbia personnel, is 406 feet below ground surface (bgs) and is constructed with 8-inch steel casing to 20 feet bgs and open hole from 20 feet to the bottom. The Banks report indicates the site well is 356 feet deep with an 8-inch casing to 30 feet bgs. This well may have been deepened since its original installation in 1957. The two remaining wells included in the Banks report are domestic



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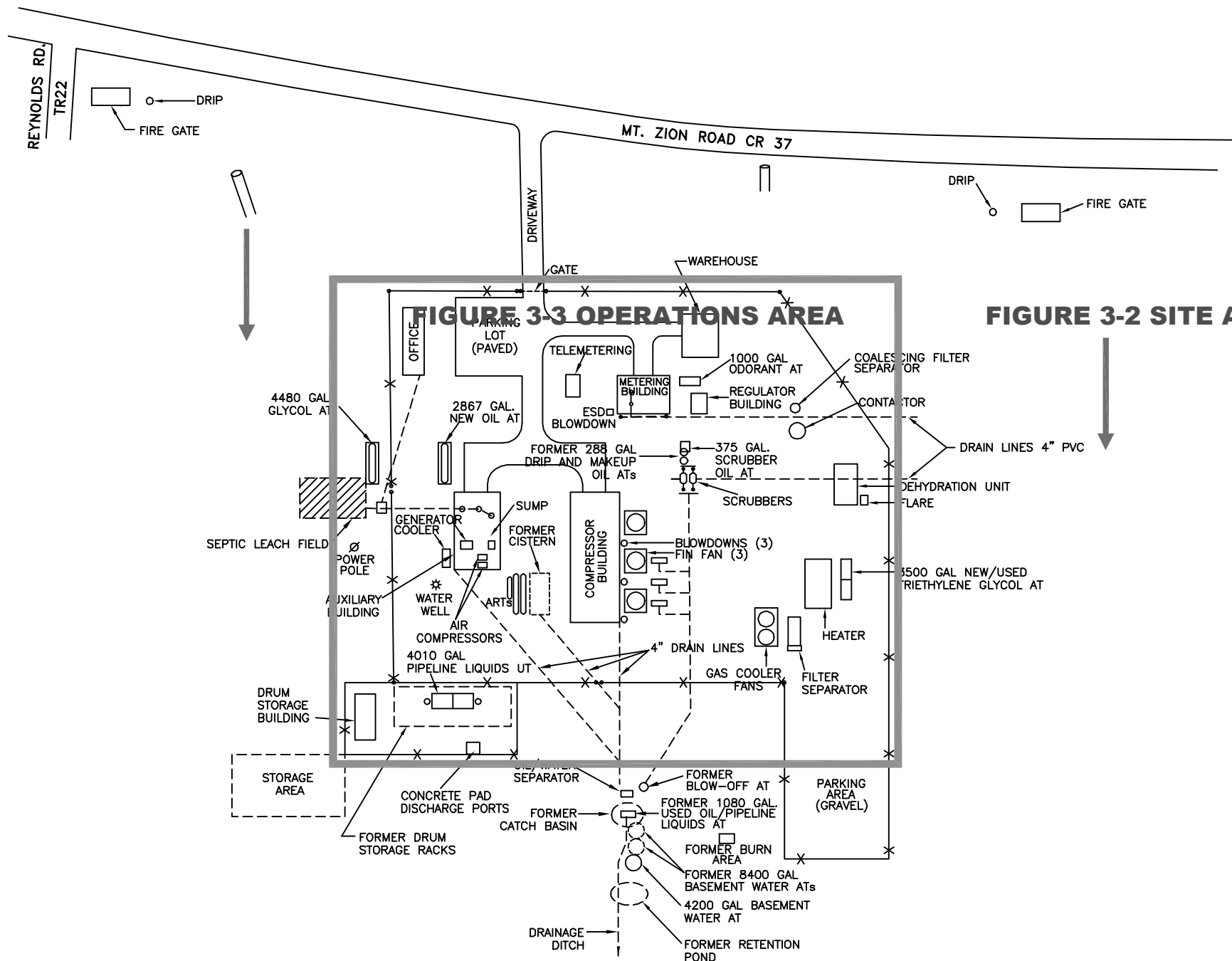
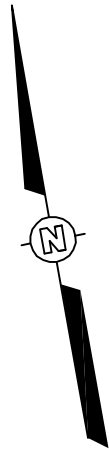
- PALEOZOIC SYSTEMS
- PERMAIN
- Pd** Dunkard
- Shales, sandstones and coal.
- PENNSYLVANIANIAN
- Pm** Monongahela
- Coal, shales and sandstones.
- Pc** Conemaugh
- Shales, sandstones, coal and limestone.
- Pp&a** Pottsville and Allegheny
- Coal, sandstone, shales and limestone.
- MISSISSIPPIAN
- Mw&m** Waverly and Maxville
- Shales, sandstones and limestone.



COLUMBIA GAS
TRANSMISSION CORPORATION

FIGURE 2-1
GEOLOGIC SITE MAP
McARTHUR COMPRESSOR STATION
VINTON COUNTY, OHIO

REFERENCE:
GEOLOGIC MAP OF OHIO, PROVIDED BY THE DEPARTMENT
OF NATURAL RESOURCES, A DIVISION OF GEOLOGICAL
SURVEY, A REPRINT OF 1981, SCALE: 1:500,000.



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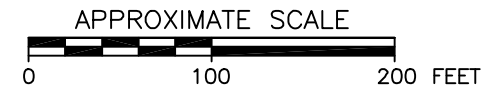
AT ABOVE GROUND TANK

UT UNDERGROUND TANK

← APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTE:

GROUNDWATER FLOW DIRECTION IS BASED ON SURFACE TOPOGRAPHY AND DRAINAGE FEATURES AND THUS MAY NOT REFLECT ACTUAL OR SUBSURFACE CONDITIONS.



COLUMBIA GAS
TRANSMISSION CORPORATION

FIGURE 3-1
SITE MAP WITH DETAILED SECTIONS
McARTHUR COMPRESSOR STATION
VINTON COUNTY, OHIO

This section (Section 4.0) presents the comparison of site data to the residential CALs. Where additional evaluation is warranted, i.e., comparison to land-use specific RALs, that evaluation will be discussed in Section 5.0.

4.2 *Site Physical Description*

Based on a review of soil descriptions and field observations, soils across the site generally consist of brown silty clay or lean clay with gray mottling. Borings were completed to a maximum depth of 10.0 feet. Mottled soils were noted at many locations at depth intervals ranging from 1 foot to 8 feet bgs. Groundwater was not encountered in any of the borings. Shale bedrock was encountered at three soil boring locations at depths ranging from 3 feet to 6 feet bgs.

4.3 *Analytical Results for Investigative Samples*

The following subsections present a summary of laboratory analytical methods and results contained in Table 4-2 (Summary of Methods Analyzed for Individual PRAs) and Table 4-3 (Summary of Analytical Results). For each medium, Table 4-3 lists only those constituents for which a valid positive detection was reported by the laboratory for at least one sample at the site. A comprehensive copy of the analytical report and the chain of custodies are contained in Appendix H (Comprehensive Copy of Analytical Results and Chain of Custody Records). Each source area includes a presentation of analytical results, discussion of the nature and extent of the site-related constituents encountered, if any, and a comparison of analytical results to the CALs. Analytical results above the residential CALs and background are presented in Figure 4-2 – Analytical Results Which Exceed CALs and/or Background – Site Area and Figure 4-3 – Analytical Results Which Exceed CALs and/or Background – Operations Area.

4.3.1 *Background Sampling Analytical Results*

Ten surface soil samples were collected (0.0-1.0 feet bgs) and five subsurface soil samples (2.0-3.0 feet bgs) were collected and submitted to the laboratory for Table 1 analyses.

One VOC constituent was detected in the background samples. Methylene Chloride was detected in approximately half of the background soil samples at concentrations ranging from 0.008 mg/kg to 0.025 mg/kg. These concentrations are less than the CAL (85 mg/kg) for Methylene Chloride. Methylene Chloride is a common laboratory introduced contaminant and likely does not represent soil concentrations at the site. Therefore, no background concentration is calculated for Methylene Chloride.

PAH and PCB constituents were not detected in the background soil samples.

**Table 4-3
Summary of Analytical Results**

		PRA	0					
		PRA Description	Background					
		Sample Type	Normal Sample					
		Sample Id	MCA-BSB001-70001	MCA-BSB001-70002		MCA-BSB002-70001		
		Depth - ft bgs	0 - 1	2 - 3		0 - 1		
		Collected Date	08/09/00	08/09/00		08/09/00		
		Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories		
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	0.025		0.012		0.009	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	178		42.6 J		144 J	
	BERYLLIUM, TOTAL	160	1.3		ND		ND	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	26.6		8.0		18.6	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	17.8		ND		21.7	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	16.6	X	1.6	X	8.5	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB002-70002	MCA-BSB003-70001	MCA-BSB003-70002					
Depth - ft bgs	2 - 3	0 - 1	2 - 3					
Collected Date	08/09/00	08/09/00	08/09/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	0.022		ND		0.010	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	75.4 J		104 J		231 J	
	BERYLLIUM, TOTAL	160	ND		ND		1.3	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	24.6		15.4		17.1	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	ND		56.4		62.0	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	9.2	X	11.9	X	7.6	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB004-70001	MCA-BSB004-70002	MCA-BSB005-70001					
Depth - ft bgs	0 - 1	2 - 3	0 - 1					
Collected Date	08/09/00	08/09/00	08/09/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	ND		ND		ND	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	134 J		86.3 J		73.5 J	
	BERYLLIUM, TOTAL	160	1.5		ND		ND	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	18.9		18.2		16.4	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	26.9		16.2		16.2	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	11.3	X	9.7	X	6.7	X

Notes:

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**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB005-70002	MCA-BSS001-40001	MCA-BSS002-40001					
Depth - ft bgs	2 - 3	0 - 1	0 - 1					
Collected Date	08/09/00	08/07/00	08/07/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	ND		0.025		ND	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	88.6 J		115		114	
	BERYLLIUM, TOTAL	160	ND		ND		1.3	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	23.8		17.7		23.0	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	19.6		18.9		44.2	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	12.0	X	6.4	X	8.7	X

Notes:

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSS003-40001	MCA-BSS004-40001	MCA-BSS005-40001					
Depth - ft bgs	0 - 1	0 - 1	0 - 1					
Collected Date	08/07/00	08/07/00	08/07/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	0.015		ND		0.008	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	74.9		119		76.0	
	BERYLLIUM, TOTAL	160	ND		1.2		ND	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	18.3		21.6		21.1	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	11.7		18.3		14.8	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	5.6	X	8.9	X	7.4	X

Notes:

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**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description		Random PCB						
Sample Type		Normal Sample						
Sample Id		MCA-BSS006-40001	MCA-BSS007-40001		MCA-BSS008-40001			
Depth - ft bgs		0 - 0.5	0 - 0.5		0 - 0.5			
Collected Date		08/07/00	08/07/00		08/07/00			
Laboratory		Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories			
Sample Collector		IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)			
Result Units		MG/KG	MG/KG		MG/KG			
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12						
	XYLENE (TOTAL)	160000						
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.045		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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**Table 4-3
Summary of Analytical Results**

PRA		1						
PRA Description		Lube Oil Tank						
Sample Type		Normal Sample						
Sample Id	MCA-BSS009-40001	MCA-BSB006-70001	MCA-BSB006-70002					
Depth - ft bgs	0 - 0.5	0 - 1	2 - 2.5					
Collected Date	08/07/00	08/10/00	08/10/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12			ND		ND	
	XYLENE (TOTAL)	160000			ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.038		0.15		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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**Table 4-3
Summary of Analytical Results**

PRA		2						
PRA Description		Used Oil/Pipe Liq/Bsmt Water ATs						
Sample Type		Field Duplicate (Rep)				Normal Sample		
Sample Id	MCA-BSB006-70003	MCA-BSD001-31001				MCA-BSB007-70001		
Depth - ft bgs	3.5 - 4	0 - 1				0 - 1		
Collected Date	08/10/00	08/08/00				08/09/00		
Laboratory	Lancaster Laboratories	Lancaster Laboratories				Lancaster Laboratories		
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)				IT Corporation (Fluor Daniel/GTI)		
Result Units	MG/KG	MG/KG				MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85			ND			
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		4.7	X	9.8	X
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500			105 J			
	BERYLLIUM, TOTAL	160			1.8			
	CADMIUM, TOTAL	39			ND			
	CHROMIUM, TOTAL	230			19.5			
	LEAD, TOTAL	400			ND		ND	
	NICKEL, TOTAL	1600			41.7			
	MERCURY, TOTAL	20			ND			
	ARSENIC, TOTAL	.43			16.6	X		

Notes:

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**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id		MCA-BSB007-70002		MCA-BSB007-70003		MCA-BSB008-70001		
Depth - ft bgs		2 - 2.5		3.5 - 4		0 - 1		
Collected Date		08/09/00		08/09/00		08/09/00		
Laboratory		Lancaster Laboratories		Lancaster Laboratories		Lancaster Laboratories		
Sample Collector		IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
Result Units		MG/KG		MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		41 J	X
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400	ND		ND		29.1	
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

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**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB008-70002	MCA-BSB008-70003	MCA-BSB009-70001					
Depth - ft bgs	2 - 2.5	3.5 - 4	0 - 1					
Collected Date	08/09/00	08/09/00	08/09/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.092		ND		2.8	X
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB009-70002	MCA-BSB009-70003	MCA-BSB010-70001					
Depth - ft bgs	2 - 2.5	3.5 - 4	0 - 1					
Collected Date	08/09/00	08/09/00	08/09/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		0.59	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400	28.8		ND		ND	
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB010-70002	MCA-BSB010-70003	MCA-BSB011-70001					
Depth - ft bgs	2 - 2.5	3.5 - 4	0 - 1					
Collected Date	08/09/00	08/09/00	08/09/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		0.10	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB011-70002	MCA-BSB011-70003	MCA-BSD001-30001					
Depth - ft bgs	2 - 2.5	3.5 - 4	0 - 1					
Collected Date	08/09/00	08/09/00	08/08/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85					ND	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		0.077		8.9	X
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500					173 J	
	BERYLLIUM, TOTAL	160					2.0	
	CADMIUM, TOTAL	39					ND	
	CHROMIUM, TOTAL	230					21.0	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600					56.1	
	MERCURY, TOTAL	20					ND	
	ARSENIC, TOTAL	.43					23.5	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		3						
PRA Description		Drip Storage/Makeup/Scrub Oil ATs						
Sample Type		Normal Sample						
Sample Id	MCA-BSD002-30001	MCA-BSB012-70001		MCA-BSB012-70002				
Depth - ft bgs	0 - 1	0 - 1		2 - 2.5				
Collected Date	08/08/00	08/10/00		08/10/00				
Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories				
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)				
Result Units	MG/KG	MG/KG		MG/KG				
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	ND					
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	1.9	X	ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	114 J					
	BERYLLIUM, TOTAL	160	1.3					
	CADMIUM, TOTAL	39	ND					
	CHROMIUM, TOTAL	230	15.3					
	LEAD, TOTAL	400	ND		27.6		ND	
	NICKEL, TOTAL	1600	26.6					
	MERCURY, TOTAL	20	ND					
	ARSENIC, TOTAL	.43	10.2	X				

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		4						
PRA Description		Air Receiver Tanks						
Sample Type		Normal Sample						
Sample Id	MCA-BSB012-70003	MCA-BSS010-40001	MCA-BSS011-40001					
Depth - ft bgs	3.5 - 4	0 - 1	0 - 1					
Collected Date	08/10/00	08/08/00	08/08/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND					
	XYLENE (TOTAL)	160000	ND					
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		0.091		1.9	X
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400	ND					
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		5						
PRA Description		Pipeline Liquids UT						
Sample Type		Normal Sample						
Sample Id	MCA-BSS012-40001	MCA-BSB013-70001	MCA-BSB014-70001					
Depth - ft bgs	0 - 1	6 - 7	6 - 7					
Collected Date	08/08/00	08/10/00	08/10/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12			ND		ND	
	XYLENE (TOTAL)	160000			ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.094		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		6						
PRA Description		Former Burn Area						
Sample Type		Field Duplicate (Rep)				Normal Sample		
Sample Id	MCA-BSS013-40001	MCA-BSB015-71003				MCA-BSB015-70001		
Depth - ft bgs	0 - 1	3.5 - 4				0 - 1		
Collected Date	08/08/00	08/09/00				08/09/00		
Laboratory	Lancaster Laboratories	Lancaster Laboratories				Lancaster Laboratories		
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)				IT Corporation (Fluor Daniel/GTI)		
Result Units	MG/KG	MG/KG				MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85			ND		ND	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		0.56		1.9	X
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500			90.3		156	
	BERYLLIUM, TOTAL	160			ND		ND	
	CADMIUM, TOTAL	39			ND		2.3	
	CHROMIUM, TOTAL	230			22.8		43.8	
	LEAD, TOTAL	400			ND		329	
	NICKEL, TOTAL	1600			21.3		36.3	
	MERCURY, TOTAL	20			ND		0.28	
	ARSENIC, TOTAL	.43			8.1	X	7.1	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB015-70002	MCA-BSB015-70003	MCA-BSB016-70001					
Depth - ft bgs	2 - 2.5	3.5 - 4	0 - 1					
Collected Date	08/09/00	08/09/00	08/09/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	ND		ND		ND	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.043		0.48		0.089	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	98.6		88.2		80.3	
	BERYLLIUM, TOTAL	160	ND		ND		ND	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	22.7		22.6		23.4	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	19.4		22.0		19.0	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	6.6	X	7.6	X	5.6	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA			7			
		PRA Description			Flare			
		Sample Type			Normal Sample			
		Sample Id	MCA-BSB016-70002	MCA-BSB016-70003	MCA-BSB017-70001			
		Depth - ft bgs	2 - 2.5	3.5 - 4	0 - 1			
		Collected Date	08/09/00	08/09/00	08/10/00			
		Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories			
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)			
		Result Units	MG/KG	MG/KG	MG/KG			
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	ND		ND			
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.12		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	81.7		65.0		76.4	
	BERYLLIUM, TOTAL	160	ND		ND		ND	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	22.7		29.4		22.0	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	19.5		17.5		26.1	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	8.3	X	9.0	X	7.4	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB017-70002	MCA-BSB017-70003	MCA-BSS015-40001					
Depth - ft bgs	2 - 2.5	3.5 - 4	0 - 1					
Collected Date	08/10/00	08/10/00	08/08/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	0.018		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	49.7		114		92.9	
	BERYLLIUM, TOTAL	160	ND		ND		ND	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	16.8		16.9		22.3	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	ND		36.4		24.7	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	4.2	X	8.2	X	9.4	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		8						
PRA Description		Septic Leach Field						
Sample Type		Normal Sample						
Sample Id	MCA-BSS016-40001	MCA-BSB018-70001		MCA-BSB019-70001				
Depth - ft bgs	0 - 1	3.5 - 4		3.5 - 4				
Collected Date	08/08/00	08/10/00		08/10/00				
Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories				
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)				
Result Units	MG/KG	MG/KG		MG/KG				
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85			ND		ND	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.49		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	90.2		162		106	
	BERYLLIUM, TOTAL	160	ND		ND		ND	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	27.8		17.7		23.4	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	27.8		ND		20.4	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	9.4	X	4.2	X	9.0	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA	9					
		PRA Description	Drain Line Discharge Pipes					
		Sample Type	Normal Sample					
		Sample Id	MCA-BSB020-70001	MCA-BSB020-70002		MCA-BSB020-70003		
		Depth - ft bgs	0 - 1	2 - 2.5		3.5 - 4		
		Collected Date	08/09/00	08/09/00		08/09/00		
		Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories		
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	ND		0.007		ND	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	106 J		80.0 J		122 J	
	BERYLLIUM, TOTAL	160	ND		ND		1.6	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	17.1		16.7		26.0	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	27.2		14.3		40.0	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	7.7	X	2.3	X	10.5	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB031-70001	MCA-BSS017-40001	MCA-BSS039-40001					
Depth - ft bgs	7 - 8	0 - 1	1 - 2					
Collected Date	08/10/00	08/08/00	08/08/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	ND		ND		ND	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		0.52		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	99.7		195 J		143 J	
	BERYLLIUM, TOTAL	160	ND		2.1		ND	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	23.3		20.4		26.2	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	33.7		17.8		16.7	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	9.1	X	16.0	X	12.1	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		10						
PRA Description		Blowdowns and Vents						
Sample Type		Normal Sample						
Sample Id	MCA-BSS040-40001	MCA-BSS018-40001		MCA-BSS019-40001				
Depth - ft bgs	0 - 1	0 - 0.5		0 - 0.5				
Collected Date	08/08/00	08/08/00		08/08/00				
Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories				
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)				
Result Units	MG/KG	MG/KG		MG/KG				
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND					
	XYLENE (TOTAL)	160000	ND					
	METHYLENE CHLORIDE	85	ND					
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		0.078		48	X
	AROCLOR-1260	1	ND		0.070		ND	
METAL	BARIUM, TOTAL	5500	147 J					
	BERYLLIUM, TOTAL	160	ND					
	CADMIUM, TOTAL	39	ND					
	CHROMIUM, TOTAL	230	17.0					
	LEAD, TOTAL	400	ND					
	NICKEL, TOTAL	1600	59.6					
	MERCURY, TOTAL	20	ND					
	ARSENIC, TOTAL	.43	11.7	X				

Notes:

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J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA						
		PRA Description						
		Sample Type						
		Sample Id	MCA-BSS020-40001	MCA-BSS021-40001		MCA-BSS022-40001		
		Depth - ft bgs	0 - 0.5	0 - 0.5		0 - 0.5		
		Collected Date	08/08/00	08/08/00		08/08/00		
		Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories		
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12						
	XYLENE (TOTAL)	160000						
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		11						
PRA Description		Compressed Air System/Aux. Bldg						
Sample Type		Field Duplicate (Rep)						
Sample Id	MCA-BSS023-40001	MCA-BCH001-81001	MCA-BML003-11001					
Depth - ft bgs	0 - 0.5	0 - 0	0 - 0					
Collected Date	08/08/00	08/08/00	08/08/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12						
	XYLENE (TOTAL)	160000						
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		0.11		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA						
		PRA Description						
		Sample Type	Normal Sample					
		Sample Id	MCA-BCH001-80001		MCA-BCH002-80001		MCA-BCH011-80001	
		Depth - ft bgs	0 - 0		0 - 0		0 - 0	
		Collected Date	08/08/00		08/08/00		08/08/00	
		Laboratory	Lancaster Laboratories		Lancaster Laboratories		Lancaster Laboratories	
		Sample Collector	IT Corporation (Fluor Daniel/GTI		IT Corporation (Fluor Daniel/GTI		IT Corporation (Fluor Daniel/GTI	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12						
	XYLENE (TOTAL)	160000						
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.14		1.2	X	0.75	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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J flag - Numerical value is an estimated quantity.

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA			12			
		PRA Description			Drum Storage Areas			
		Sample Type			Field Duplicate (Rep)			
		Sample Id	MCA-BML002-10001	MCA-BML003-10001	MCA-BSS025-41001			
		Depth - ft bgs	0 - 0	0 - 0	0 - 1			
		Collected Date	08/08/00	08/08/00	08/07/00			
		Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories			
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)			
		Result Units	MG/KG	MG/KG	MG/KG			
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12					ND	
	XYLENE (TOTAL)	160000					ND	
	METHYLENE CHLORIDE	85					0.015	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500					83.9	
	BERYLLIUM, TOTAL	160					ND	
	CADMIUM, TOTAL	39					ND	
	CHROMIUM, TOTAL	230					26.4	
	LEAD, TOTAL	400					ND	
	NICKEL, TOTAL	1600					21.0	
	MERCURY, TOTAL	20					ND	
	ARSENIC, TOTAL	.43					10.4	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type		Normal Sample						
Sample Id		MCA-BSS024-40001		MCA-BSS025-40001		MCA-BSS026-40001		
Depth - ft bgs		0 - 1		0 - 1		0 - 1		
Collected Date		08/07/00		08/07/00		08/07/00		
Laboratory		Lancaster Laboratories		Lancaster Laboratories		Lancaster Laboratories		
Sample Collector		IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
Result Units		MG/KG		MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	ND		ND		0.008	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	98.3		67.3		63.6	
	BERYLLIUM, TOTAL	160	ND		ND		ND	
	CADMIUM, TOTAL	39	ND		ND		ND	
	CHROMIUM, TOTAL	230	27.1		26.3		16.2	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	15.5		27.2		19.8	
	MERCURY, TOTAL	20	ND		ND		ND	
	ARSENIC, TOTAL	.43	13.0	X	13.4	X	12.5	X

Notes:

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA	13					
		PRA Description	Filter Separators					
		Sample Type	Normal Sample					
		Sample Id	MCA-BSB021-70001	MCA-BSB021-70002		MCA-BSB021-70003		
		Depth - ft bgs	0 - 1	2 - 2.5		3.5 - 4		
		Collected Date	08/10/00	08/10/00		08/10/00		
		Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories		
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB022-70001		MCA-BSB022-70002		MCA-BSB022-70003			
Depth - ft bgs	0 - 1		2 - 2.5		3.5 - 4			
Collected Date	08/10/00		08/10/00		08/10/00			
Laboratory	Lancaster Laboratories		Lancaster Laboratories		Lancaster Laboratories			
Sample Collector	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)			
Result Units	MG/KG		MG/KG		MG/KG			
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA	14					
		PRA Description	Dehydration Unit					
		Sample Type	Normal Sample					
		Sample Id	MCA-BSB023-70001	MCA-BSB023-70002		MCA-BSB023-70003		
		Depth - ft bgs	0 - 1	2 - 2.5		3.5 - 4		
		Collected Date	08/10/00	08/10/00		08/10/00		
		Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories		
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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J flag - Numerical value is an estimated quantity.

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA	15					
		PRA Description	Contactor					
		Sample Type	Normal Sample					
		Sample Id	MCA-BSB024-70001	MCA-BSB024-70002		MCA-BSB024-70003		
		Depth - ft bgs	0 - 1	2 - 2.5		3.5 - 4		
		Collected Date	08/10/00	08/10/00		08/10/00		
		Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories		
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		16						
PRA Description		Oil-Water Separator						
Sample Type		Normal Sample						
Sample Id		MCA-BSB025-70001	MCA-BSB025-70002		MCA-BSB025-70003			
Depth - ft bgs		0 - 1	2 - 2.5		3.5 - 4			
Collected Date		08/09/00	08/09/00		08/09/00			
Laboratory		Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories			
Sample Collector		IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)			
Result Units		MG/KG	MG/KG		MG/KG			
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	15	X	0.054		0.043	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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J flag - Numerical value is an estimated quantity.

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA	17					
		PRA Description	Scrubbers					
		Sample Type	Normal Sample					
		Sample Id	MCA-BSB026-70001	MCA-BSB026-70002		MCA-BSB026-70003		
		Depth - ft bgs	0 - 1	2 - 2.5		3.5 - 4		
		Collected Date	08/10/00	08/10/00		08/10/00		
		Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories		
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

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J flag - Numerical value is an estimated quantity.

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Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA	18					
		PRA Description	Fencelines					
		Sample Type	Normal Sample					
		Sample Id	MCA-BSS027-40001	MCA-BSS028-40001		MCA-BSS029-40001		
		Depth - ft bgs	0 - 1	0 - 1		0 - 1		
		Collected Date	07/31/00	08/07/00		08/07/00		
		Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories		
		Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12						
	XYLENE (TOTAL)	160000						
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		0.049		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		19						
PRA Description		Equipment Storage Areas						
Sample Type		Normal Sample						
Sample Id	MCA-BSS030-40001	MCA-BSS031-40001		MCA-BSS032-40001				
Depth - ft bgs	0 - 1	0 - 1		0 - 1				
Collected Date	08/07/00	08/07/00		08/07/00				
Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories				
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)				
Result Units	MG/KG	MG/KG		MG/KG				
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12			ND		ND	
	XYLENE (TOTAL)	160000			ND		ND	
	METHYLENE CHLORIDE	85			ND		0.008	
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500			96.8		100	
	BERYLLIUM, TOTAL	160			ND		ND	
	CADMIUM, TOTAL	39			ND		ND	
	CHROMIUM, TOTAL	230			21.9		18.7	
	LEAD, TOTAL	400			77.6		ND	
	NICKEL, TOTAL	1600			18.4		17.2	
	MERCURY, TOTAL	20			ND		ND	
	ARSENIC, TOTAL	.43			7.6	X	7.4	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		20						
PRA Description		Fin Fan Units						
Sample Type		Normal Sample						
Sample Id	MCA-BSS033-40001	MCA-BSS034-40001	MCA-BSS035-40001					
Depth - ft bgs	0 - 1	0 - 1	0 - 1					
Collected Date	08/07/00	08/08/00	08/08/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85	0.051					
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		0.22 J		0.046	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	117					
	BERYLLIUM, TOTAL	160	ND					
	CADMIUM, TOTAL	39	ND					
	CHROMIUM, TOTAL	230	21.1					
	LEAD, TOTAL	400	ND					
	NICKEL, TOTAL	1600	18.5					
	MERCURY, TOTAL	20	ND					
	ARSENIC, TOTAL	.43	8.2	X				

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA						
		PRA Description						
		Sample Type						
		Sample Id	MCA-BSS036-40001		MCA-BSS037-40001		MCA-BSS038-40001	
		Depth - ft bgs	0 - 1		0 - 1		0 - 1	
		Collected Date	08/08/00		08/08/00		08/08/00	
		Laboratory	Lancaster Laboratories		Lancaster Laboratories		Lancaster Laboratories	
		Sample Collector	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		0.072	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

		PRA	22			24		
		PRA Description	Former Cistern			Compressor Building Floors		
		Sample Type	Normal Sample			Normal Sample		
		Sample Id	MCA-BSB027-70001		MCA-BSB028-70001	MCA-BCH003-80001		
		Depth - ft bgs	9 - 10		8 - 9	0 - 0		
		Collected Date	08/10/00		08/10/00	08/08/00		
		Laboratory	Lancaster Laboratories		Lancaster Laboratories	Lancaster Laboratories		
		Sample Collector	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		
		Result Units	MG/KG		MG/KG	MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND			
	XYLENE (TOTAL)	160000	ND		ND			
	METHYLENE CHLORIDE	85	0.030 J		ND			
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		0.068	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	55.9		20.8			
	BERYLLIUM, TOTAL	160	ND		ND			
	CADMIUM, TOTAL	39	ND		ND			
	CHROMIUM, TOTAL	230	24.6		7.4			
	LEAD, TOTAL	400	ND		ND			
	NICKEL, TOTAL	1600	35.2		14.0			
	MERCURY, TOTAL	20	ND		ND			
	ARSENIC, TOTAL	.43	8.9	X	5.4	X		

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BCH004-80001	MCA-BCH005-80001	MCA-BCH006-80001					
Depth - ft bgs	0 - 0	0 - 0	0 - 0					
Collected Date	08/08/00	08/08/00	08/08/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12						
	XYLENE (TOTAL)	160000						
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.056		0.072		0.066	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BCH007-80001	MCA-BCH008-80001	MCA-BCH009-80001					
Depth - ft bgs	0 - 0	0 - 0	0 - 0					
Collected Date	08/08/00	08/08/00	08/08/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12						
	XYLENE (TOTAL)	160000						
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.14 J		0.73 J		0.52 J	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA		25						
PRA Description		Drip Hook-Ups						
Sample Type		Normal Sample						
Sample Id	MCA-BCH010-80001	MCA-BSB029-70001		MCA-BSB029-70002				
Depth - ft bgs	0 - 0	0 - 1		2 - 2.5				
Collected Date	08/08/00	08/10/00		08/10/00				
Laboratory	Lancaster Laboratories	Lancaster Laboratories		Lancaster Laboratories				
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)		IT Corporation (Fluor Daniel/GTI)				
Result Units	MG/KG	MG/KG		MG/KG				
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12			ND		ND	
	XYLENE (TOTAL)	160000			ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	0.44 J		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA								
PRA Description								
Sample Type								
Sample Id	MCA-BSB029-70003	MCA-BSB030-70001	MCA-BSB030-70002					
Depth - ft bgs	3.5 - 4	0 - 1	2 - 2.5					
Collected Date	08/10/00	08/10/00	08/10/00					
Laboratory	Lancaster Laboratories	Lancaster Laboratories	Lancaster Laboratories					
Sample Collector	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)	IT Corporation (Fluor Daniel/GTI)					
Result Units	MG/KG	MG/KG	MG/KG					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	BENZENE	12	ND		ND		ND	
	XYLENE (TOTAL)	160000	ND		ND		ND	
	METHYLENE CHLORIDE	85						
P/PCB	AROCLOR-1248	1	ND		ND		ND	
	AROCLOR-1254	1	ND		ND		ND	
	AROCLOR-1260	1	ND		ND		ND	
METAL	BARIUM, TOTAL	5500						
	BERYLLIUM, TOTAL	160						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	MERCURY, TOTAL	20						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

**Table 4-3
Summary of Analytical Results**

PRA				
PRA Description				
Sample Type				
Sample Id		MCA-BSB030-70003		
Depth - ft bgs		3.5 - 4		
Collected Date		08/10/00		
Laboratory		Lancaster Laboratories		
Sample Collector		IT Corporation (Fluor Daniel/GTI)		
Result Units		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*
VOA	BENZENE	12	0.060 J	
	XYLENE (TOTAL)	160000	30	
	METHYLENE CHLORIDE	85		
P/PCB	AROCLOR-1248	1	0.051	
	AROCLOR-1254	1	ND	
	AROCLOR-1260	1	ND	
METAL	BARIUM, TOTAL	5500		
	BERYLLIUM, TOTAL	160		
	CADMIUM, TOTAL	39		
	CHROMIUM, TOTAL	230		
	LEAD, TOTAL	400		
	NICKEL, TOTAL	1600		
	MERCURY, TOTAL	20		
	ARSENIC, TOTAL	.43		

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

Date generated: February 26, 2001

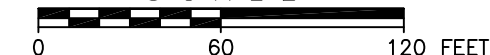


Table 1 Metal constituents, with the exception of Arsenic, were detected below the CALs. Arsenic was detected above the CAL (0.43 mg/kg) in all 15 background samples at concentrations ranging from 1.6 mg/kg (MCA-BSB001-70002) to 16.6 mg/kg (MCA-BSB001-70001). Other Table 1 metals constituents detected in the background samples were Barium, Beryllium, Chromium, and Nickel.

The maximum detected concentration in the background samples and a concentration equal to two times the arithmetic mean of concentrations detected in background were determined for each constituent detected (Appendix I - Site Background Calculations). As provided for in the CWP, the higher of these two values was used to establish the background concentration for specific constituents at the site. Background calculations were not performed for VOC constituents detected in the background samples. The following are the results of the site background calculations:

Analyte	Background Calculation Level (mg/kg)
Arsenic	17.6
Barium	231
Beryllium	1.6
Chromium	38.6
Nickel	62.0

4.3.2 PCB Random Sampling Analytical Results

Four surface soil samples (0.0-0.5 foot bgs) were collected and submitted to the laboratory for PCB analyses. Analytical results indicated that PCBs were detected in two of the soil samples. Aroclor-1254 was detected in two samples at concentrations less than the CAL (1 mg/kg) for PCBs.

4.3.3 Site Characterization Analytical Results

PRA #1 – 2,867-gallon Lube Oil AT

One surface soil sample (0.0-1.0 foot bgs) and two subsurface soil samples (one at 2.0-2.5 feet and one at 3.5-4.0 feet bgs) were collected and submitted to the laboratory for BTEX and PCB analyses. Analytical results for the soil samples indicated that BTEX constituents were not detected. PCB constituents were not detected or detected below the CAL.

PRA #2 Former Used Oil/Pipeline Liquids AT, Basement Water ATs, Former “Blow Off” AT, and Former Retention Pond

Five surface soil samples (0.0-1.0 foot bgs) and ten subsurface soil samples (five at 2.0-2.5 feet and five at 3.5-4.0 feet bgs) were collected and submitted to the laboratory for BTEX, PCB, PAH, and Lead analyses. Two sediment samples, one duplicate sediment sample, and one miscellaneous liquid sample were collected and submitted to the laboratory for Table 1 analyses.

Analytical results for the miscellaneous liquid sample indicated that Table 1 constituents were not detected or detected less than the CALs.

Analytical results for the soil and sediment samples indicated that BTEX and PAH constituents were not detected. The PCB constituent, Aroclor-1254, was detected in three surface soil samples and the two sediment samples at concentrations exceeding the CAL (1 mg/kg total) for PCBs. Sample locations and concentrations of Aroclor-1254 were as follows:

PCB Aroclor-1254

MCA-BSB007-70001	9.8 mg/kg
MCA-BSB008-70001	41 J mg/kg
MCA-BSB009-70001	2.8 mg/kg
MCA-BSD001-30001/310001	average 6.8 mg/kg
MCA-BSD002-30001	1.9 mg/kg

Table 1 Metals constituents were not detected or detected below the CALs, and/or the background levels in all samples collected at this PRA with the exception of Arsenic in one sample. Arsenic was detected in sediment sample MCA-BSD001-30001 and its duplicate MCA-BSD001-31001 at an average concentration of 20.0 mg/kg, which exceeds the CAL (0.43 mg/kg) and background level (17.6 mg/kg) for Arsenic.

PRA #3 Former 288-gallon Drip Storage and Make-up Oil ATs, and 375-gallon Scrubber Oil AT

One surface soil sample (0.0-1.0 foot bgs) and two subsurface soil samples (one at 2.0-2.5 feet and one at 3.5-4.0 feet bgs) were collected and submitted to the laboratory for BTEX, PCB, PAH, and Lead analyses. Analytical results indicated that the analyzed constituents were either not detected or detected below the CALs.

APPENDIX D

SOIL BORING LOGS



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS001		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0	40001	brown silty CLAY	CL	0.0	
1						
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS003			COORDINATES: Not Surveyed		DATE: 8/7/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00	
DRILLING METHODS: Hand Auger					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0	40001	brown silty CLAY, damp, soft	CL	0.0	
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS004		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0	40001	brown/orange mottled gray silty CLAY, damp, soft	CL	0.0	
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB001			COORDINATES: Not Surveyed		DATE: 8/9/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
1	0.0-1.0	70001	brown silty CLAY, moist, medium stiff, organic matter	CL		
			black, brown lean CLAY, moist, medium stiff			
2	2.0-3.0	70002	gray mottled brown lean CLAY, moist, medium stiff			
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB002		COORDINATES: Not Surveyed		DATE: 8/9/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00		
ENGINEER/GEOLOGIST: M (b) (4)		TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00		
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
<div style="text-align: center;">1</div>	0.0-1.0	70001	brown mottled gray lean CLAY, trace sand, moist, medium stiff	CL		
<div style="text-align: center;">2</div>	2.0-3.0	70002				
<div style="text-align: center;">3</div>						
<div style="text-align: center;">4</div>						
<div style="text-align: center;">5</div>						
<div style="text-align: center;">6</div>						
<div style="text-align: center;">7</div>						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB003			COORDINATES: Not Surveyed		DATE: 8/9/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	H _{Nu} data (ppm)	Remarks
1	0.0-1.0	70001	brown mottled gray lean CLAY, trace sand, little weathered shale, damp, medium stiff	CL		
2	2.0-3.0	70002				
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB004			COORDINATES: Not Surveyed		DATE: 8/9/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	H _{Nu} data (ppm)	Remarks
<div style="text-align: center;">1</div>	0.0-1.0	70001	brown mottled gray lean CLAY, trace sand, little weathered shale, damp, medium stiff	CL		
<div style="text-align: center;">2</div>	2.0-3.0	70002				
<div style="text-align: center;">3</div>						
<div style="text-align: center;">4</div>						
<div style="text-align: center;">5</div>						
<div style="text-align: center;">6</div>						
<div style="text-align: center;">7</div>						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB005		COORDINATES: Not Surveyed		DATE: 8/9/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00		
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	H _{Nu} data (ppm)	Remarks
<div style="text-align: center;">1</div>	0.0-1.0'	70001	brown orange mottled gray lean CLAY, trace sand, moist stiff	CL		
<div style="text-align: center;">2</div>	2.0-3.0'	70002				
<div style="text-align: center;">3</div>						
<div style="text-align: center;">4</div>						
<div style="text-align: center;">5</div>						
<div style="text-align: center;">6</div>						
<div style="text-align: center;">7</div>						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS006		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
	0.0-0.5	40001	light brown to orange silty CLAY	CL		
1						
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS007			COORDINATES: Not Surveyed		DATE: 8/7/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/7/00	
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
	0.0-0.5	40001	light brown silty CLAY, noted sandstone and shale fragments	CL		
1						
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS008		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-0.5	40001	0.2' gravel with plastic net under it, brown mottled gray silty CLAY, moist, soft	CL		
1						
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS009			COORDINATES: Not Surveyed		DATE: 8/7/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/7/00	
DRILLING METHODS: Hand Auger			1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
	0.0-0.5	40001	light brown silty CLAY, noted sandstone and shale fragments	CL		
1						
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB006			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			

DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
<div style="text-align: center;">1</div>	0.0-1.0'	70001	brown mottled gray lean CLAY with black specks, little sand, moist, medium stiff	CL		
2						
3						
4	2.0-2.5'	70002				
5						
6						
7	3.5-4.0'	70003				



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SB007		COORDINATES: Not Surveyed		DATE: 8/9/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00		
DRILLING METHODS: Geoprobe				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	70001	brown mottled gray lean CLAY, some sand, moist, medium stiff	CL		
1						
2	2.0-2.5'	70002				
3						
	3.5-4.0'	70003				
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SB008		COORDINATES: Not Surveyed		DATE: 8/9/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00		
DRILLING METHODS: Geoprobe				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	70001	brown mottled gray lean CLAY, some sand, moist, medium stiff	CL		
1						
2	2.0-2.5'	70002				
3						
	3.5-4.0'	70003				
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB009			COORDINATES: Not Surveyed		DATE: 8/9/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	70001	brown lean CLAY, little sand, moist, medium stiff	CL		
2	2.0-2.5'	70002				
3			gray mottled brown lean CLAY, little sand, moist, medium stiff			
4	3.5-4.0'	70003				
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB010			COORDINATES: Not Surveyed		DATE: 8/9/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	70001	fill	CL		
			brown mottled gray lean CLAY, some sand, moist, medium stiff			
2	2.0-2.5'	70002				
3						
4	3.5-4.0'	70003				
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB011			COORDINATES: Not Surveyed		DATE: 8/9/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
<div style="text-align: center;">1</div>	0.0-1.0'	70001	brown mottled gray lean CLAY, moist, soft	CL		
<div style="text-align: center;">2</div>	2.0-2.5'	70002				
<div style="text-align: center;">3</div>						
<div style="text-align: center;">4</div>	3.5-4.0'	70003				
<div style="text-align: center;">5</div>						
<div style="text-align: center;">6</div>						
<div style="text-align: center;">7</div>						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SD001			COORDINATES: Not Surveyed		DATE: 8/8/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00	
DRILLING METHODS: Hand Auger					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	30001	brown sandy SILT, some clay, moist, soft	ML	0.0	
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SD002		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	30001	brown sandy SILT, some clay, moist, soft	ML		
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB012			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	70001	brown mottled gray lean CLAY, some sand, moist, medium stiff	CL		
2						
3	2.0-2.5'	70002				
4						
	3.5-4.0'	70003				
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS010		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	0.2' of GRAVEL brown mottled gray lean CLAY, moist, soft	CL	0.0	
1						
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS011		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	0.2' of GRAVEL brown mottled gray lean CLAY, moist, soft	CL	0.0	
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS012		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	0.2' of GRAVEL brown mottled gray lean CLAY, moist, soft	CL	0.0	
1						
2						
3						
4						
5						
6						
7						



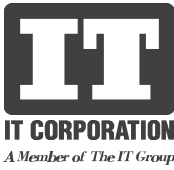
PRA: #5

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS013		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	1' gravel brown sandy CLAY, damp, hard, sandstone and gravels	CL		
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SB013		COORDINATES: Not Surveyed		DATE: 8/10/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 7.0'		DATE COMPLETED: 8/10/00		
DRILLING METHODS: Geoprobe				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1			0.2' gravel brown/gray lean CLAY, little sand, moist, medium stiff	CL		
2						
3						
4						
5						
6	6.0-7.0'	70001	brown weathered SHALE			
7			refusal at 7.0'			



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB014			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 7.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
0			0.2' gravel			
1			brown/gray lean CLAY, little sand, moist, medium stiff	CL		
2						
3						
4						
5						
6	6.0-7.0'	70001	brown weathered SHALE			
7			refusal at 7.0'			



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB015			COORDINATES: Not Surveyed		DATE: 8/9/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 8.0'		DATE COMPLETED: 8/9/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			

DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	H _{Nu} data (ppm)	Remarks
1	0.0-1.0'	70001	brown silty CLAY, with gravels	CL	0.0	
2	2.0-2.5'	70002	brown mottled gray lean CLAY, moist, soft		21.0	
3			dark brown lean CLAY, moist, soft			
4	3.5-4.0'	70003	brown mottled gray lean CLAY, little sand, moist soft		0.0	
5						
6						
7			gray lean CLAY, high plasticity, moist, stiff			



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB016			COORDINATES: Not Surveyed		DATE: 8/9/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00	
DRILLING METHODS: Geoprobe				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	70001	brown silty CLAY, little sand, moist, soft	CL	0.0	
1						
2	2.0-2.5'	70002				
3						
	3.5-4.0'	70003			0.0	
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS015		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	0.3' of gravel brown mottled silty CLAY, some sand, moist, soft	CL	13.2	
2						
3						
4						
5						
6						
7						



PRA: #7

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS016			COORDINATES: Not Surveyed		DATE: 8/8/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00	
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	brown mottled silty CLAY, some sand, moist, soft	CL	0.0	
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB017			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			

DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
<div style="text-align: center;">1</div>	0.0-1.0'	70001	0.2' gravel brown mottled gray lean CLAY, little sand, moist, medium stiff	CL		
<div style="text-align: center;">2</div>						
<div style="text-align: center;">3</div>	2.0-2.5'	70002				
<div style="text-align: center;">4</div>	3.5-4.0	70003				
<div style="text-align: center;">5</div>						
<div style="text-align: center;">6</div>						
<div style="text-align: center;">7</div>						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB018			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
			brown mottled gray lean CLAY, little sand, moist, soft	CL		
1						
2						
3						
	3.5-4.0'	70001				
4						
5						
6						
7						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB019			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
			brown mottled gray lean CLAY, little sand, moist, soft	CL		
1						
2						
3						
	3.5-4.0'	70001				
4						
5						
6						
7						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS017			COORDINATES: Not Surveyed		DATE: 8/8/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00	
ENGINEER: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00	
DRILLING METHODS: Hand Auger					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0	40001	brown/gray sandy CLAY, very moist, soft, organic matter	CL	0.0	
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS039		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 2.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	1.0-2.0	40001	light brown lean CLAY, moist PVC drain pipe 0.7 - 1.0 feet some pea gravel, wet sampled below broken section of 4" PVC drain pipe	CL	0.0	
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS040			COORDINATES: Not Surveyed		DATE: 8/8/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00	
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	H _{Nu} data (ppm)	Remarks
<div style="text-align: center;">1</div>	0.0-1.0	40001	0.5' of black sandy SILT, high organic matter brown/orange/tan lean CLAY, moist, soft	SM	0.0	
				CL		
<div style="text-align: center;">2</div>						
<div style="text-align: center;">3</div>						
<div style="text-align: center;">4</div>						
<div style="text-align: center;">5</div>						
<div style="text-align: center;">6</div>						
<div style="text-align: center;">7</div>						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB020			COORDINATES: Not Surveyed		DATE: 8/9/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/9/00	
ENGINEER/GEOLOGIST: M (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/9/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			

DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	H _{Nu} data (ppm)	Remarks
<div style="text-align: center;">1</div>	0.0-1.0	70001	brown mottled gray lean CLAY, some sand, moist and stiff	CL	0.0	
<div style="text-align: center;">2</div>	2.0-2.5'	70002				
<div style="text-align: center;">3</div>						
<div style="text-align: center;">4</div>	3.5-4.0'	70003				
<div style="text-align: center;">5</div>						
<div style="text-align: center;">6</div>						
<div style="text-align: center;">7</div>						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB031			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 8.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	H _{Nu} data (ppm)	Remarks
1			brown mottled gray lean CLAY	CL		
2						
3			gray mottled brown lean CLAY, noted organics			
4						
5			brown mottled gray lean CLAY			
6						
7	7.0-8.0'	70001	original soil below fill, brown mottled gray lean CLAY, with organic matter, roots, moist, medium stiff			



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS018		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-0.5'	40001	brown silty CLAY, moist, soft	CL		
1						
2						
3						
4						
5						
6						
7						



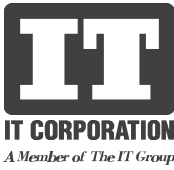
VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS019		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-0.5'	40001	0.2' of gravel olive brown lean CLAY, moist, soft			
1						
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS020		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-0.5'	40001	brown silty CLAY, moist, soft	CL		
1						
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS021		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-0.5'	40001	1' of gravel brown/gray silty CLAY, moist, soft	CL		
1						
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS022		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-0.5'	40001	0.3' fine brown SAND	SP		
			olive gray CLAY	CL		
1						
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS023		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 0.5'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-0.5'	40001	1' of gravel brown/gray silty CLAY, moist, soft	CL		
1						
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS024			COORDINATES: Not Surveyed		DATE: 8/7/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00	
DRILLING METHODS: Hand Auger					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	brown mottled gray lean CLAY, some sand, moist, soft	CL	0.0	
1						
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:			PROJECT NAME: McArthur				
BORING NUMBER: SS025			COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1				
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION		USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	0.4' cobbles on top orange/brown silty CLAY		CL	0.0	
2							
3							
4							
5							
6							
7							



PRA: #12

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS026			COORDINATES: Not Surveyed		DATE: 8/7/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00	
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	0.2' of gravel on top with plastic brown lean CLAY, shale and sandstone fragments, moist, soft	CL	0.0	
1						
2						
3						
4						
5						
6						
7						



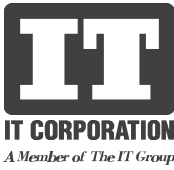
PRA: #13

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB021			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	70001	0.2' of gravel brown mottled gray lean CLAY, little sand, moist, medium stiff	CL		
1						
2	2.0-2.5'	70002				
3						
4	3.5-4.0'	70003				
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB022			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
1	0.0-1.0'	70001	red mottled gray lean CLAY, moist, medium stiff	CL		
2	2.0-2.5'	70002				
3			gray weathered silty SHALE			
4	3.5-4.0'	70003				
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB023			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
<div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> <div style="text-align: center;">5</div> <div style="text-align: center;">6</div> <div style="text-align: center;">7</div>	0.0-1.0'	70001	brown mottled gray lean CLAY, little sand, moist, medium stiff	CL		
	2.0-2.5'	70002				
	3.5-4.0'	70003				



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SB024		COORDINATES: Not Surveyed		DATE: 8/10/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00		
DRILLING METHODS: Geoprobe				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	70001	brown mottled gray lean CLAY, little sand, moist, medium stiff	CL		
1						
2	2.0-2.5'	70002				
3						
	3.5-4.0'	70003				
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SB025		COORDINATES: Not Surveyed		DATE: 8/10/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00		
DRILLING METHODS: Geoprobe				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	70001	brown mottled gray lean CLAY, some sand, moist soft	CL		
1						
2	2.0-2.5'	70002				
3						
	3.5-4.0'	70003				
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB026			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			

DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
1	0.0-1.0'	70001	brown/red silty CLAY, some sand, moist, medium stiff	CL		
2	2.0-2.5'	70002				
3			brown lean CLAY, moist, stiff			
4	3.5-4.0'	70003				
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS027		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	brown silty CLAY, little gray mottling	CL		
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS028		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	brown mottled gray lean CLAY, moist, soft	CL		
1						
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS029		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	brown mottled gray lean CLAY, moist, soft	CL		
1						
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS030		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	brown mottled gray lean CLAY, moist, soft	CL		
1						
2						
3						
4						
5						
6						
7						



PRA: #19

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS031			COORDINATES: Not Surveyed		DATE: 8/7/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00	
DRILLING METHODS: Hand Auger					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	0.2' gravel yellowish brown lean CLAY, moist	CL	0.0	
1						
2						
3						
4						
5						
6						
7						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS032		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	light yellowish brown SILT, little clay at bottom, dry to moist	ML	0.0	
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS033		COORDINATES: Not Surveyed		DATE: 8/7/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/7/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/7/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	light yellowish brown SILT, little clay at bottom, dry to moist	ML	0.0	
1						
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS034			COORDINATES: Not Surveyed		DATE: 8/8/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00	
DRILLING METHODS: Hand Auger					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	0.5' gravel brown mottled gray lean CLAY, high plasticity, moist	CL	6.0	
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS035		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	0.5' gravels brown mottled gray lean CLAY, high plasticity, moist, medium stiff	CL	0.0	
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SS036			COORDINATES: Not Surveyed		DATE: 8/8/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00	
DRILLING METHODS: Hand Auger					PAGE: 1 of 1	
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	brown mottled gray lean CLAY, high plasticity, moist, medium stiff	CL		
1						
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS037		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
	0.0-1.0'	40001	0.3' of gravel brown/tan lean CLAY, some sand, moist, soft	CL	0.0	
1						
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SS038		COORDINATES: Not Surveyed		DATE: 8/8/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/8/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 1.0'		DATE COMPLETED: 8/8/00		
DRILLING METHODS: Hand Auger				PAGE: 1 of 1		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
1	0.0-1.0'	40001	0.3' of gravel brown/tan lean CLAY, some sand, moist, soft	CL	0.0	
2						
3						
4						
5						
6						
7						



PROJECT NUMBER:		PROJECT NAME: McArthur				
BORING NUMBER: SB027		COORDINATES: Not Surveyed		DATE: 8/10/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 10.0'		DATE COMPLETED: 8/10/00		
DRILLING METHODS: Geoprobe				PAGE: 1 of 2		
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNu data (ppm)	Remarks
			brown mottled gray lean CLAY, little sand, moist, medium stiff	CL		
1						
2						
3						
4						
5						
6						
7						
8						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB027			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 10.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 2 of 2			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
9			fine GRAVELS with silty clay, wet	GC		
	9.0-10.0'	70001	brown lean CLAY, some weathered shale, moist, soft	CL		
			gray weathered SHALE, wet			
10						
11						
12						
13						
14						
15						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB028			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 9.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 2			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	H _{Nu} data (ppm)	Remarks
<div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> <div style="text-align: center;">5</div> <div style="text-align: center;">6</div> <div style="text-align: center;">7</div> <div style="text-align: center;">8</div>			<div style="height: 100px;">brown lean CLAY, some sand, moist, soft</div>	CL		
			<div style="height: 100px;">medium SAND, wet, loose</div>	SP		
			<div style="height: 100px;">coarse SAND, wet, loose</div>			



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB028		COORDINATES: Not Surveyed		DATE: 8/10/00		
ELEVATION: N/A		GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00		
ENGINEER/GEOLOGIST: (b) (4)		TOTAL BORING DEPTH: 9.0'		DATE COMPLETED: 8/10/00		
DRILLING METHODS: Geoprobe			PAGE: 2 of 2			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
<div style="text-align: center;">9</div>	8.0-9.0'	70001				
			coarse gravels at bottom of former cistern	GP		
<div style="text-align: center;">10</div>						
<div style="text-align: center;">11</div>						
<div style="text-align: center;">12</div>						
<div style="text-align: center;">13</div>						
<div style="text-align: center;">14</div>						
<div style="text-align: center;">15</div>						



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB029			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			

DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
<div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> <div style="text-align: center;">5</div> <div style="text-align: center;">6</div> <div style="text-align: center;">7</div>	0.0-1.0'	70001	brown mottled gray lean CLAY, trace sand, moist, medium stiff	CL		
	2.0-2.5'	70002				
	3.5-4.0'	70003				



VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:			PROJECT NAME: McArthur			
BORING NUMBER: SB030			COORDINATES: Not Surveyed		DATE: 8/10/00	
ELEVATION: N/A			GROUNDWATER LEVEL: N/A		DATE STARTED: 8/10/00	
ENGINEER/GEOLOGIST: (b) (4)			TOTAL BORING DEPTH: 4.0'		DATE COMPLETED: 8/10/00	
DRILLING METHODS: Geoprobe			PAGE: 1 of 1			
DEPTH (ft)	SAMPLE INTERVAL	SAMPLE NUMBER	DESCRIPTION	USCS SYMBOL	HNU data (ppm)	Remarks
<div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> <div style="text-align: center;">5</div> <div style="text-align: center;">6</div> <div style="text-align: center;">7</div>	0.0-1.0'	70001	brown mottled gray lean CLAY, little sand, moist, medium stiff	CL		
	2.0-2.5'	70002				
	3.5-4.0'	70003				

APPENDIX I

SITE BACKGROUND CALCULATIONS

ARSENIC BACKGROUND LEVEL WORKSHEET
McARTHUR COMPRESSOR STATION
VINTON COUNTY, OHIO

BACKGROUND SAMPLES	ARSENIC (mg/kg)	
MCA- BSB001-70001	16.6	
MCA- BSB001-70002	1.6	
MCA- BSB002-70001	8.5	
MCA- BSB002-70002	9.2	
MCA- BSB003-70001	11.9	
MCA- BSB003-70002	7.6	
MCA- BSB004-70001	11.3	
MCA- BSB004-70002	9.7	
MCA- BSB005-70001	6.7	
MCA- BSB005-70002	12	
MCA- BSS001-40001	6.4	
MCA- BSS002-40001	8.7	
MCA- BSS003-40001	5.6	
MCA- BSS004-40001	8.9	
MCA- BSS005-40001	7.4	
Average Concentration	8.81	X 2 = 17.61

Calculated background concentration - 17.61 mg/kg

Maximum detected concentration - 16.60 mg/kg

SELECTED SITE BACKGROUND LEVEL - 17.61 mg/kg

Notes:

Based on Data Collection and Evaluation Human Health and Risk Assessment Bulletin No.2, Supplemental Guidance to Risk Assessment Guidance to Superfund. Office of Technical Services, USEPA Region IV, October, 1996.

According to USEPA, Region IV, two times the average background concentration or the maximum background concentration may be used as site background concentration

BARIUM BACKGROUND LEVEL WORKSHEET
McARTHUR COMPRESSOR STATION
VINTON COUNTY, OHIO

BACKGROUND SAMPLES	BARUIM (mg/kg)	
MCA- BSB001-70001	178	
MCA- BSB001-70002	42.6	
MCA- BSB002-70001	144	
MCA- BSB002-70002	75.4	
MCA- BSB003-70001	104	
MCA- BSB003-70002	231	
MCA- BSB004-70001	134	
MCA- BSB004-70002	86.3	
MCA- BSB005-70001	73.5	
MCA- BSB005-70002	88.6	
MCA- BSS001-40001	115	
MCA- BSS002-40001	114	
MCA- BSS003-40001	74.9	
MCA- BSS004-40001	119	
MCA- BSS005-40001	76	
Average Concentration	110.42	X 2 = 220.84

Calculated background concentration - 220.84 mg/kg

Maximum detected concentration - 231.00 mg/kg

SELECTED SITE BACKGROUND LEVEL · 231.00 mg/kg

Notes:

Based on Data Collection and Evaluation Human Health and Risk Assessment Bulletin No.2, Supplemental Guidance to Risk Assessment Guidance to Superfund. Office of Technical Services, USEPA Region IV, October, 1996.

According to USEPA, Region IV, two times the average background concentration or the maximum background concentration may be used as site background concentration

BERYLLIUM BACKGROUND LEVEL WORKSHEET
McARTHUR COMPRESSOR STATION
VINTON COUNTY, OHIO

BACKGROUND SAMPLES	BERYLLIUM (mg/kg)	
MCA- BSB001-70001	1.3	
MCA- BSB001-70002	0.6	
MCA- BSB002-70001	0.6	
MCA- BSB002-70002	0.6	
MCA- BSB003-70001	0.55	
MCA- BSB003-70002	1.3	
MCA- BSB004-70001	1.5	
MCA- BSB004-70002	0.6	
MCA- BSB005-70001	0.55	
MCA- BSB005-70002	0.6	
MCA- BSS001-40001	0.6	
MCA- BSS002-40001	1.3	
MCA- BSS003-40001	0.55	
MCA- BSS004-40001	1.2	
MCA- BSS005-40001	0.55	
Average Concentration	0.83	X 2 = 1.65

Calculated background concentration - 1.65 mg/kg

Maximum detected concentration - 1.50 mg/kg

SELECTED SITE BACKGROUND LEVEL - 1.65 mg/kg

Notes:

Based on Data Collection and Evaluation Human Health and Risk Assessment Bulletin No.2, Supplemental Guidance to Risk Assessment Guidance to Superfund. Office of Technical Services, USEPA Region IV, October, 1996.

According to USEPA, Region IV, two times the average background concentration or the maximum background concentration may be used as site background concentration

CHROMIUM BACKGROUND LEVEL WORKSHEET
McARTHUR COMPRESSOR STATION
VINTON COUNTY, OHIO

BACKGROUND SAMPLES	CHROMIUM (mg/kg)	
MCA- BSB001-70001	26.6	
MCA- BSB001-70002	8	
MCA- BSB002-70001	18.6	
MCA- BSB002-70002	24.6	
MCA- BSB003-70001	15.4	
MCA- BSB003-70002	17.1	
MCA- BSB004-70001	18.9	
MCA- BSB004-70002	18.2	
MCA- BSB005-70001	16.4	
MCA- BSB005-70002	23.8	
MCA- BSS001-40001	17.7	
MCA- BSS002-40001	23	
MCA- BSS003-40001	18.3	
MCA- BSS004-40001	21.6	
MCA- BSS005-40001	21.1	
Average Concentration	19.29	X 2 = 38.57

Calculated background concentration - 38.57 mg/kg
Maximum detected concentration - 26.60 mg/kg

SELECTED SITE BACKGROUND LEVEL - 38.57 mg/kg

Notes:

Based on Data Collection and Evaluation Human Health and Risk Assessment Bulletin No.2, Supplemental Guidance to Risk Assessment Guidance to Superfund. Office of Technical Services, USEPA Region IV, October, 1996.

According to USEPA, Region IV, two times the average background concentration or the maximum background concentration may be used as site background concentration

NICKEL BACKGROUND LEVEL WORKSHEET
McARTHUR COMPRESSOR STATION
VINTON COUNTY, OHIO

BACKGROUND SAMPLES	NICKEL (mg/kg)	
MCA- BSB001-70001	17.8	
MCA- BSB001-70002	6.25	
MCA- BSB002-70001	21.7	
MCA- BSB002-70002	6	
MCA- BSB003-70001	56.4	
MCA- BSB003-70002	62	
MCA- BSB004-70001	26.9	
MCA- BSB004-70002	16.2	
MCA- BSB005-70001	16.2	
MCA- BSB005-70002	19.6	
MCA- BSS001-40001	18.9	
MCA- BSS002-40001	44.2	
MCA- BSS003-40001	11.7	
MCA- BSS004-40001	18.3	
MCA- BSS005-40001	14.8	
Average Concentration	23.80	X 2 = 47.59

Calculated background concentration - 47.59 mg/kg

Maximum detected concentration - 62.00 mg/kg

SELECTED SITE BACKGROUND LEVEL - 62.00 mg/kg

Notes:

Based on Data Collection and Evaluation Human Health and Risk Assessment Bulletin No.2, Supplemental Guidance to Risk Assessment Guidance to Superfund. Office of Technical Services, USEPA Region IV, October, 1996.

According to USEPA, Region IV, two times the average background concentration or the maximum background concentration may be used as site background concentration

APPENDIX J

BACKGROUND EVALUATION FOR ARSENIC

Comparison of Site Data and Background Data

1.0 Introduction

To determine whether or not environmental data from the site are consistent with background conditions at the site, the site-data are compared to the background data set. Where possible, the statistical software StatMost32™ is used to perform statistical evaluations. Methods used follow those described in several guidance documents, including, but not limited to, the following:

- Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities. Addendum to Final Guidance. Office of Solid Waste, Permits and State Programs Division. U.S. EPA, July, 1992.
- U.S. EPA (1994) Statistical Methods for Evaluating the Attainment of Cleanup Standards, Volume 3.
- U.S. EPA (1998) Guidance for Data Quality Assessment; Practical Methods for Data Analysis. EPA QA/G-9. January 1998.

A brief description of the procedure follows.

2.0 Methodology

In order to compare the two sets of data, simple statistical procedures designed to infer differences between two populations sampled (site vs. background) are used. A step-wise procedure (Figure 1) was developed to provide the most powerful statistical test for each comparison without violating underlying test assumptions. The primary objective of the comparison of each data set is to determine if the distributions of the data around the arithmetic mean of each data set are equal.

The Null Hypothesis (H_0) states that the site data are consistent with background (U.S. EPA, 1992):

- H_0 : Site data less than or equal to Background data.

If the Null Hypothesis is not rejected, the site data can be considered consistent with background data. If the Null Hypothesis is rejected, the Alternative Hypothesis (H_A) is accepted and the site data are considered to be not consistent with background data:

- H_A : Site data are greater than Background data.

For all tests performed, a level of 0.05 was used to determine statistical significance. All tests conducted for comparison of means were one-tailed.

2.1 Data Evaluation and Determination of Test Technique

Data in the background data set and data in the site data set are first reviewed to determine the frequency of detection (FOD) and total numbers of valid samples (n) per constituent (Figure 1). Table 1 presents the data for each data set, n, and the FOD. If n is less than or equal to five, or if the FOD is less than 20% in either data set, no further evaluation of that constituent is conducted. If n is between 6 and 9 (including 6 and 9) in either data set, non-parametric statistical methods must be used to compare background data to site data. Non-parametric testing techniques are described below (Section 2.2).

If the data from both data sets pass all criteria above, a test for normal distribution (Shapiro-Wilk's test) is conducted. If either data set fails the normality tests, the data will be transformed (log or natural log) and tested again for normality. Data for any constituent determined to be not normally distributed (after transformation) in either data set is evaluated using non-parametric techniques (Section 2.2). If the data from both data sets were determined to be normally distributed, parametric techniques are used to evaluate the data (Section 2.3). The transformed data will be used for the analysis if transformation was necessary to achieve a normal distribution.

2.2 Non-Parametric Techniques

Where the data evaluation presented in Section 2.1 dictates the use of non-parametric techniques, the appropriate test method must be determined. Figure 2 presents a decision tree to determine the appropriate non-parametric test to use. The decision is based on whether the variances of each data set are equal or unequal through the use of a Levene's Test for unequal variances. Where variances are equal, the Wilcoxon Rank-Sum Test (here after the Mann-Whitney U Test) and the Quantile Test are used as the non-parametric tests of comparison of means (both tests assume that the variances of the datasets are equal). In the case of unequal variances, the Kolmogorov-Smirnov Z-test is used as the non-parametric test of comparison of means (this test assumes that the variances of the datasets are unequal).

In either case, if one of the tests indicates that the site data are not consistent with the background data, the two data sets are not equal, and the conclusion is drawn that the site data are not consistent with the background data.

2.3 Parametric Techniques

Where the data evaluation presented in Section 2.1 allows the use of parametric techniques, the appropriate test method must be determined. Figure 3 presents a decision tree to determine the appropriate parametric test to use. The decision is based on whether the variances of each data set are equal or unequal through the use of an F-test (the F-test assumes a normal data distribution). Where variances are equal, a general T-test is performed. In the case of unequal variances, an unpaired T-test is used.

In either case (equal or unequal variance), if the test indicates that the site data are not consistent with the background data, the two data sets are not equal, and the conclusion is drawn that the site data are not consistent with the background data (i.e, the H_0 must not be rejected by either test in order to conclude that site data are consistent with background data).

3.0 Results

Table 1 presents the Arsenic data for both the background and site data-sets. For both, n and FOD are sufficient to continue. As indicated on the table, n for both datasets is greater than or equal to 10, and FOD for both datasets is greater than or equal to 20%. Therefore, the Shapiro-Wilk's Test for Normality was performed. According to the test (Table 2), the background data and site data are both normally distributed. Therefore, parametric-tests were employed. According to the F-test (Table 3), the variances of both site and background data are equal. Therefore, a general t-test was performed (Table 4). According to the t-test, site data are consistent with background. Therefore, no further action is recommended for Arsenic at this site.

Table 1
Data Evaluation - Arsenic
McArthur Compressor Station

Arsenic Background Data		Arsenic Site Data	
Sample	Concentration (mg/kg)	Sample	Concentration (mg/kg)
MCA-BSB001-70001	16.6	MCA-BSD001-30001	20.05
MCA-BSB001-70002	1.6	MCA-BSD002-30001	10.2
MCA-BSB002-70001	8.5	MCA-BSB015-70001	7.1
MCA-BSB002-70002	9.2	MCA-BSB015-70002	6.6
MCA-BSB003-70001	11.9	MCA-BSB015-70003	7.85
MCA-BSB003-70002	7.6	MCA-BSB016-70001	5.6
MCA-BSB004-70001	11.3	MCA-BSB016-70002	8.3
MCA-BSB004-70002	9.7	MCA-BSB016-70003	9
MCA-BSB005-70001	6.7	MCA-BSB017-70001	7.4
MCA-BSB005-70002	12	MCA-BSB017-70002	4.2
MCA-BSS001-40001	6.4	MCA-BSB017-70003	8.2
MCA-BSS002-40001	8.7	MCA-BSS015-40001	9.4
MCA-BSS003-40001	5.6	MCA-BSS016-40001	9.4
MCA-BSS004-40001	8.9	MCA-BSB018-70001	4.2
MCA-BSS005-40001	7.4	MCA-BSB019-70001	9
		MCA-BSB020-70001	7.7
		MCA-BSB020-70002	2.3
		MCA-BSB020-70003	10.5
		MCA-BSB031-70001	9.1
		MCA-BSS017-40001	16
		MCA-BSS039-40001	12.1
		MCA-BSS040-40001	11.7
		MCA-BSS024-40001	13
		MCA-BSS025-40001	11.9
		MCA-BSS026-40001	12.5
		MCA-BSS031-40001	7.6
		MCA-BSS032-40001	7.4
		MCA-BSS033-40001	8.2
		MCA-BSB027-70001	8.9
		MCA-BSB028-70001	5.4
Number of Data Points (n):	15	Number of Data Points (n):	30
Frequency of Detection (FOD):	100%	Frequency of Detection (FOD):	100%
Conclusion:	Continue evaluation	Conclusion:	Continue evaluation

Table 2
Shapiro-Wilk Test for Normality – Untransformed Arsenic data

Column Name: [background]

Sample Size = 15

Number of Missings = 0

Data Mean = 8.8067

Standard Deviation = 3.4192

Shapiro-Wilk Normality Test:

Shapiro-Wilk's W = 0.9601

Probability = 0.6622

The null hypothesis of normality is not rejected ($p > 0.05$).

Column Name: [site]

Sample Size = 30

Number of Missings = 0

Data Mean = 9.0267

Standard Deviation = 3.5496

Shapiro-Wilk Normality Test:

Shapiro-Wilk's W = 0.9398

Probability = 0.1059

The null hypothesis of normality is not rejected ($p > 0.05$).

Table 3
F-Test Analysis on Arsenic Data

Confidence Level = 0.95			
Background vs. Site :			
	Background	Site	
Sample Size	15	30	
Number of Missings	0	0	
Mean	8.8067	9.0267	Difference = -0.2200
Variance	11.6907	12.5998	Ratio = 0.9278
Degree of Freedom	29	14	
F-Value	1.0778	Probability	0.9155
Critical F-Value = 2.3139			
The variances are equal (p>0.05).			

Table 4
t-Test Analysis for Arsenic Data

Confidence Level = 0.95 [One Tail Test]				
Background vs. Site :				
	Background	Site		
Sample Size	15	30		
Number of Missings	0	0		
Mean	8.8067	9.0267	Difference = -0.2200	
Variance	11.6907	12.5998	Ratio = 0.9278	
t-Value	Probability	DF	Critical t-Value	
General	-0.1983	0.4219 43	1.6811	
The null hypothesis is not rejected (p>0.05). Therefore, site data are consistent with background. No further action is required for Arsenic at this site.				